

CHOKING PHOBIA IN SCHOOL-AGED CHILDREN  
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Choking Phobia is a rare disorder which can occur at any age. It is conceptualized by severe anxiety in response to a fear of choking on solid foods and liquids. Most of the literature on the disorder relies on case studies and has dealt exclusively with adults. However school personnel are often the first line in determining these disorders. Recently, experimentally controlled designs have been published on the treatment of choking phobia in children. This paper reviews the literature on children with choking phobia to provide a description of the disorder, methods of differential diagnosis, behavioral assessment strategies, and possible treatment options based on new empirically supported evidence.

Choking phobia is a specific phobia (subtype: other) characterized by an intense fear and avoidance of chewing, swallowing, or choking on food (e.g., McNally, 1994; Nock, 2002). It most often occurs following an episode involving vomiting or choking on food (Chatoor, Conly, & Dickson, 1988; McNally, 1994; Singer, Ambuel, Wade, & Jaffe, 1992). The occurrence of choking phobia is rare, but can have serious health implications. These effects can include weight loss, dehydration, malnutrition, and the avoidance of eating in public (e.g., McNally, 1986). In one case, a child began to vomit in order to assuage his anxiety after trying to eat a feared food (Nock, 2002). Choking phobia, also referred to as food phobia in some child and medical literatures (Nock, 2002), is the developed fear of choking consisting of an excessive and persistent fear and avoidance of particular foods or fluids. The majority of the published literature revolves around adult case studies (e.g., McNally, 1994). Recently, studies have begun to focus on the child and adolescent school-based population (Banerjee, Bhandari, & Rosenberg, 2005; Burklow & Linscheid, 2004; Choripita, Vitali, & Barlow, 1997; Nock, 2002). Controlled studies presented in the literature thus far using behavioral techniques with children have largely been limited to these. The prevalence of the disorder is unknown, although it appears to be moderately more common in females (McNally, 1994). There is a large need for empirically based studies in this area and expansion of the knowledge base within school districts, in that this is where the disorder is often being dealt with.

#### DESCRIPTION AND DIFFERENTIAL DIAGNOSIS

Choking phobia (i.e., swallowing or food phobia) is characterized by fear and avoidance of swallowing food, fluids, or pills (e.g., McNally, 1994; Solyman & Sookman, 1980). The American

Psychiatric Association *Diagnostic Statistical Manual of Mental Disorders*, Fourth Edition, Text Revision (2000) classifies choking phobia as a specific phobia (other type). Specific phobias are characterized as a marked and persistent fear that is excessive or unreasonable, cued by the presence or anticipation of a specific object or situation (*DSM-IV-TR*, 2000). Exposure to the phobic stimulus (e.g., solid food or liquids) provokes an immediate anxiety response, which may take the form of a situationally bound or situationally predisposed Panic Attack. In the case of children, their anxiety may be expressed by crying, tantrums, freezing, or clinging (e.g., McNally, 1994). In adults, the person normally recognizes his fear is excessive or unreasonable, but this may not be the case in children diagnosed with the disorder (*DSM-IV-TR*, 2000). The other subtype includes a stimuli cued fear of choking, vomiting, or contracting an illness. Silverman and Rabian (1994) reason the response as characteristic of an exaggerated flight or flight response. It is suggested the more severe the phobia the more intense the symptoms of avoidance behavior and intrusion of daily functioning (Silverman & Rabian, 1994). In the realm of choking phobia, this may be indicated by an initial avoidance of a specific type of food (i.e., the food which was eaten during the initial choking episode) that generalizes to all food groups over time. This generalization is a direct result of an increase in severity of the phobia with a concomitant decrease in dietary intake and body weight (Zelikovsky, MacNaughton, Geffken, 2001).

When establishing a diagnosis of choking phobia, several other disorders and conditions must be ruled out. Dysphagia refers to difficulty swallowing solids and/or liquids and can be related to a number of medical conditions (e.g., pharyngitis, cysts, hypothyroidism, or hyperplasia of the lingual tonsil; Banerjee, Bhandari, & Rosenberg, 2005). Discomfort from swallowing necessitates an ear, nose, and throat



assessment and can be distinguished from choking phobia. A child with choking phobia does not experience difficulty or pain while swallowing (McNally, 1994).

Another throat related problem is Globus (Liebowitz, 1987). Globus is a feeling of having a lump in the throat. Almost 45% of young and middle-aged men and women have had its occurrence, often in response to emotional events such as bereavement (McNally, 1994). Globus can occur with panic disorder and major depressive disorder, but most patients with globus do not report a fear of choking.

Anorexia nervosa is another disorder with eating restrictions, forbidden foods, and food refusal (DSM-IV-TR, 2000). In contrast to anorexia nervosa, a person with choking phobia does not have a body image distortion, fear of becoming fat, or a desire to be thinner (Zelikovsky et al., 2001). Bulimia nervosa can be ruled out since a person with choking phobia does not experience anxiety because of concerns over the caloric intake of consumed food (Zelikovsky et al., 2001).

Panic Disorder contains a choking symptom in response to a panic attack. Choking phobia is expressed through the fear of choking on food, pills, or fluids. In comparison, an individual with panic disorder can experience sensations of choking in the absence of food, pills, or fluids (McNally, 1994).

Individuals with obsessive-compulsive disorder may report fears of swallowing inedible objects and check their food for items they may unwittingly ingest. These individuals are not afraid of choking on food, but instead worried about the ingestion of unwanted objects in their food (Banerjee et al., 2005).

Some cases of choking phobia could be considered in the realm of posttraumatic stress disorder (PTSD). Although most cases of choking phobia are traumatic for the person, there are no published cases of preoccupation with intrusive memories or flashbacks of the traumatic event. The person with choking phobia is more concerned with the avoidance of choking on food in the future (Nock, 2002).

## PREVALENCE AND ETIOLOGY

The prevalence rates of choking are unknown (McNally, 1994). The prevalence of specific phobia ranges from 7.2% to 11.3% (DSM-IV-TR, 2000). This includes a decline of symptoms in the elderly. Choking phobia, however, does not have a common age of onset as it can begin from early childhood to old age and onset is typically expressed suddenly following an incident of choking or vomiting, which is most typical in childhood (e.g., Banerjee et al., 2005; Choripta et al., 1997; Nock, 2002). The occurrence of the disorder is moderately (64%) skewed to the female population (McNally, 1994).

A large number of factors are likely to contribute to the occurrence of choking phobia, but there have not been studies in the literature that have explored the etiological causes of the disorder. A study by Kendler, Neale, Kessler, Heath, and Eaves (1992) investigated the possibility of a genetic contribution to the emergence of choking phobia. The study consisted of interviewing 2163 adult female twins. The results of the study suggested genetic factors had a small influence in the development of phobias in general, but specific phobias had the lowest rate of heritability (Kendler et al., 1992).

In the case of choking phobia, environmental factors may provide the most important information on the etiology of the disorder. If conceptualized in a classical conditioning model, the child begins to choke (unconditioned stimulus) and experiences an anxiety response (unconditioned stimulus) while chewing or swallowing foods or liquids (conditioned stimulus) (Zelikovsky et al., 2001). As the anxiety increases in intensity, the child begins to avoid the feared food with behaviors such as spreading food on the plate, bathroom breaks at meal time, or tantrums. This avoidance behavior may then generalize to other solid food or liquids. It may also spread to the environment where the vomiting or choking occurred (i.e., school cafeterias). Depending upon how the family reacts to the child's behavior, they may be negatively reinforcing the child's escape behavior as the anxiety assuages with avoidance of the food and/or the situation where the incident occurred (Zelikovsky et al.).



## BEHAVIORAL ASSESSMENT / FORMULATION

The assessment of choking phobia can be done through an extensive psychological interview and a specific feeding assessment (Zelikovsky et al., 2001). Diagnostic assessment should come in the form of a clinician administered, semi-structured interview with discussions with both the child and parents. Assessments used in the literature include the schedule for affective disorders and schizophrenia for school-aged children – present and lifetime version (Nock, 2002) and the Anxiety Disorders Interview Schedule for DSM-IV, Child and Parent Versions (ADIS-C/P; Silverman & Albano, 1994). Assessment may also include completion of self-monitoring forms (Burklow & Linscheid, 2004), self-report questionnaires, and use of fear hierarchies (Chorpita et al., 1997).

A complete functional analysis of eating/drinking/pill swallowing should be conducted with the goal determining antecedents and consequences of the behavior (Zelikovsky et al., 2001). A behavior component of assessment which may be helpful is the inclusion of monitoring the child in an eating activity (Chorpita et al., 1997). This may or may not include the parents, but is more beneficial to have them there in order to get a better representation of difficulty with food situations (Linscheid, Budd, & Rasnake, 1995). Depending upon the severity of the disorder, the child is prompted to eat foods he/she will likely eat, foods the child will be reluctant to eat, and foods the child refuses to eat. When parents are present, they are asked to respond to the child in a manner typical of the home setting. The food was recommended be something the child had eaten prior to the development of the disorder and a regular part of the family's diet (Linscheid et al., 1995). If the disorder has generalized to include all foods, or foods of a specific large group (e.g., vegetables), an assessment can be done by placing a tongue depressor on his tongue, holding ice cubes in his mouth, or drinking water with crushed ice in it (Chorpita et al., 1997).

## TREATMENTS

Treatments found for choking phobia have been seen primarily in case studies (McNally, 1994). Prior to Chorpita et al. (1997), experimentally controlled treatment outcomes were not found in the literature. Since the multiple baseline approach

adopted by Chorpita et al., more studies have sought to show experimental control of treatment outcomes (e.g., Banerjee et al., 2005; Burklow & Linscheid, 2004; Nock, 2002). The treatments found in the literature differed slightly, but all used techniques based upon the use of psychoeducation, cognitive restructuring, and exposure therapy with response prevention (e.g., Zelikovsky, 2001). *In vivo* exposure was found to be the most frequently used (e.g., Chorpita et al., 1997; Philips, 1985), however some treatments of choking phobia initiated with interoceptive exposure before eating actual foods (Ball & Otto, 1994).

Implementation of behavioral programs within the structures of a multiple-baseline design has been shown to increase the range and volume of consumption of feared foods (Nock, 2002; Chorpita et al., 1997). These designs allow for flexibility of food choices and can administered across multiple settings (e.g., school and home) as well. In the literature, foods have been separated by type (e.g., fluids, soft foods, hard foods, chewy foods) or a hierarchal fear value. Most often these two types are interchangeable as a person with choking phobia is likely to fear a hard or chewy food the most and is more likely to consume fluids. Self-monitoring is a tool which can be used to create a food hierarchy for use in a multiple baseline design (Chorpita et al., 1997). A child or parent kept diary would include food intake, records of the number of servings of each food, and the amount of anxiety experienced during consumption. Whichever way the food hierarchy is created, food from each category is gradually introduced into the child's behavioral program starting in therapy sessions and then practiced at home with parents (Nock, 2002).

The behavioral interventions used most often include providing modeling by school nurse, therapist and/or parents, muscle relaxation, deep breathing, and visual imagery, contingency management techniques, and subsequent instruction to the parents on the use of each technique (Chorpita et al., 1997). The importance of instruction to parents on behavioral techniques cannot be stressed enough, as the parents will be crucial components to therapy between scheduled sessions. The use of relaxation training may include throat-specific relaxation exercises such as tensing and relaxing the throat, jaw, and shoulder muscles (Donohue, Runyon, & Thevenin, 1997). Donohue et al. stressed the importance of increasing the child's confidence in his ability to swallow correctly. Other relaxation



techniques which have been used for choking phobia are taking deep slow breaths if a child feels the food is "stuck" in his throat. Carstens (1982) encouraged a patient to stop eating if a sensation of food being stuck occurred and instructed the child to take four deep breaths while saying the word "heavy" to himself.

A few cases described vomiting in response to consumption of food (e.g., Nock, 2002). In these cases contingency measures or time-out was used in treatment. Time-out consisted of removal of positive reinforcement (i.e., rather than providing positive attention for vomiting) and reaffirming the initial request of food consumption (i.e., rather than providing negative reinforcement through the removal of task demands; Nock, 2002).

Recently, the use of low-dose selective serotonin reuptake inhibitors (SSRIs) has been used for severe cases of choking phobia (Banerjee et al., 2005). Banerjee et al. treated 3 children with severe cases of choking phobia. The results of this study found the low-dose SSRI treatment to be associated with swift improvement with sustained results. While this treatment can be easily applied within the school under the supervision of the school nurse, it should be considered with caution as there are some recent concerns about whether SSRIs increase the risk of suicidal behavior in depressed children and adolescents (Banerjee et al.).

### SUMMARY

Choking is classified as a subtype of specific phobia and can occur at any age. It has been highlighted in various classification systems such as *deglutition* in the medical literature (e.g., Bailly, 2005), a posttraumatic eating disorder (Chatoor & Dickson, 1988), a subtype of specific phobia (*DSM-IV-TR*, 2000), and food or swallowing phobia in the child literature (e.g., Nock, 2002). The current placement of a specific phobia subtype appears to be the most accurate and potentially useful classification within the settings that this problem might most likely occur (i.e., school or home). Although prevalence rates are unknown, choking phobia does not appear to be common enough in the literature to warrant its own anxiety classification. Treatment of choking phobia within home and school setting has been found to be successful through the use of cognitive-behavioral techniques, primarily through the use of exposure therapy. Although most of the research with choking

phobia has been with case studies (in homes and schools), empirically based research has surfaced in the recent literature featuring the use of a multiple baseline design across behaviors (i.e., categorization of foods). Future research is needed to better determine prevalence rates, the effects and side-effects of medications such as SSRIs, the separation of specific components of cognitive-behavioral therapy, and the success of school-based therapies.

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